

SECTION 20 01 13

RESTORATION OF FACILITY SERVICES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Metal Corrosion Repairs
- B. Drain and Sewer Cleaning
- C. Ductwork Cleaning
- B. Filter replacement

1.02 RELATED SECTIONS

- A. Coordinate the Work of this Section with the Work of other Sections specifying remedial work, corrective measures, and restoration work, including Section 01 71 23 - Field Engineering, Section 02 41 19 - Selective Structure Demolition, Section 01 74 14 - Cleaning, and all related sections.

1.03 MEASUREMENT AND PAYMENT

- A. General: Separate measurement or payment will not be made for the work required under this Section. All costs in connection with the Work specified herein will be considered to be included or incidental to the Work of this Contract.

1.04 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM A780 Practice for Repair of Damaged Hot-Dip Galvanized Coatings
- B. Steel Structures Painting Council (SSPC):
 - 1. Steel Structures Painting Manual, Volume 2, "Systems and Specifications"

1.05 DESCRIPTION

- A. Inspect the existing plumbing system, fire protection system, and HVAC systems for such work that does not meet the requirements of the current California Mechanical Code, California Plumbing Code, and California Energy Code, and for providing remediation of such defective plumbing and mechanical work as required to bring the plumbing and mechanical systems up to foregoing referenced Code requirements.
- B. Cleaning storm drains, sanitary sewers and sump pumps connected therewith, and HVAC systems' ductwork within the station or building.

- C. The station or building involved in this work will be in continuous operation during the construction period. This will require that the Contractor plan the Work carefully to work around unavoidable obstacles in the prosecution of the Work. It will require further that the Contractor complete some new construction facilities required in the renovation work before removing existing like facilities during transitional work.
- D. Provide such additional temporary facilities as may be required to facilitate continuous, unobstructed station or building operations during transitional construction work.

1.06 REGULATORY REQUIREMENTS

- A. Refer to Section 20 10 13 - Common Materials and Methods for Facility Services – Fire Suppression, Plumbing and HVAC, for requirements.

1.07 SUBMITTALS

- A. General: Refer to Section 01 33 00 - Submittal Procedures, and Section 01 33 23 - Shop Drawings, Product Data, and Samples, for submittal requirements and procedures.
- B. List of Materials: Comply with applicable requirements of Section 20 10 13 - Common Materials and Methods for Facility Services – Fire Suppression, Plumbing and HVAC, for new materials.
- C. Shop Drawings: Comply with applicable requirements of Section 20 10 13 - Common Materials and Methods for Facility Services – Fire Suppression, Plumbing and HVAC, for all plumbing and mechanical restoration work.
- D. Product Data: Submit individual manufacturer's product data for all manufactured items, materials, equipment, and cleaning agents.
- E. Operation and Maintenance Manuals: Comply with applicable requirements of Section 20 10 13 - Common Materials and Methods for Facility Services – Fire Suppression, Plumbing and HVAC.

1.08 QUALITY ASSURANCE

- A. Comply with applicable requirements of Section 20 10 13 - Common Materials and Methods for Facility Services.

1.09 STORAGE AND PROTECTION

- A. Comply with requirements of Section 20 10 13 - Common Materials and Methods for Facility Services.

1.10 SITE CONDITIONS

- A. Comply with requirements of Section 20 10 13 - Common Materials and Methods for Facility Services – Fire Suppression, Plumbing and HVAC, is extremely important that the contractor examine the station or building site and compare the drawings with existing condition. The act of submitting shall be deemed that such an examination has been made and that allowed

therefore, have been made in preparing the bid figure. Contractor shall field verify all dimensions and existing conditions prior to commencement of work.

1.11 SCHEDULING OF WORK.

- A. Trackway drains within the station shall be cleaned during non-revenue hours, 0200 to 0330, Monday through Friday, subject to approval of the work of each shift by the Engineer.
- B. Trackway is defined as that portion of the station between station exterior walls and 10 feet inside of each end of the platform.
- C. The Contractor shall give thirty days advanced notice of scheduling for trackway work, and the work is subject to two weeks advance approval by the Engineer. Submit trackway access request on the Monday, 12 calendar days before the date such access is required, to permit inclusion of this access in the District Track Allocation Schedule.
- D. The District may cancel scheduled work on the trackway on or before 3:00 p.m. of the afternoon before the morning the scheduled work will take place without additional cost to the District. Such work shift cancellations or schedule changes may total a maximum of five days per month without additional cost to the District.
- E. Station drains, storm drains, and sumps shall be cleaned after all interior renovation and restoration work has been completed, and the Engineer has authorized the work to start. Sumps shall be cleaned after drain lines have been cleaned and flushed.
- F. Ductwork shall be cleaned during the renovation of duct systems and before air balancing of the systems.

PART 2 - PRODUCTS

2.01 MATERIALS, EQUIPMENT, AND FACILITIES

- A. The Contractor shall provide all materials, tools, equipment, devices, appurtenances, facilities, and services as required for performing the plumbing and mechanical restoration work.
- B. Where new materials, equipment, and accessories are required to complete the restoration work as indicated, such new materials, equipment, and accessories shall conform with applicable requirements of Section 20 10 13 - Common Materials and Methods for Facility Services – Fire Suppression, Plumbing and HVAC, and such other Sections as applicable to the Work.

2.02 METAL CORROSION REPAIRS

- A. General: Only steel surfaces with superficial rust stains will be considered suitable for corrosion-inhibitive repair work.
- B. Black Steel Pipe: Clean rusted steel to bare metal with power disc sanding to remove all evidence of rust, then solvent clean steel surfaces in accordance with SSPC-SP 1 to remove dust and other contaminants. Then, when dry, prime paint with an epoxy-polyamide primer in accordance with SSPC-Paint 22. Finish paint with an industrial grade polyurethane enamel, flat or semi-gloss, black in color.

- C. Galvanized Steel Pipe and Ductwork: Clean rusted galvanized steel to bare steel with power disc sanding to remove all evidence of rust, then solvent clean in accordance with SSPC-SP 1 to remove dust and other contaminants. Then cold-galvanize removed and damaged galvanized surfaces with galvanizing repair material meeting requirements of ASTM A780. Apply second coat of galvanized repair material in accordance with the manufacturer's application instructions, and feather-out so as to become almost invisible.
- D. Copper and Brass Pipe and Fittings: Clean thoroughly with solvent that will not damage or weaken soldered joints.

2.03 CLEANING AGENTS

- A. Provide commercial grade cleaning agents manufactured specifically for the intended purpose and certified by the manufacturer as biodegradable. Products, solution-mix ratios, application methods, and drain injection volumes shall be as recommended by the cleaning agent manufacturer and approved by the Engineer. Submit manufacturer's product data in accordance with the foregoing specified submittal requirements.

2.04 REPLACEMENT FILTERS

- A. Refer to Section 23 81 00 - Unitary HVAC Equipment, for filter requirements.

PART 3 - EXECUTION

3.01 INSTALLATION GENERAL REQUIREMENTS

- A. Installation of renovated and restored work shall conform with applicable requirements for new work as specified in the pertinent Sections.
- B. The Work of this Section includes cleanup and cleaning of all restored surfaces as specified in Section 01 74 14 - Cleaning.
- C. The Work of this Section includes touch-up painting and full painting of surfaces, as indicated. Where touch-up painting is indicated or required, such touch-up painting shall be of the same color and finish texture as existing adjacent surfaces, and overlaps with existing painted surfaces shall be feathered out so as to be invisible in the finished work. Where new painting is required of new completed surfaces, conform with applicable requirements of Section 09 91 00 - Painting.

3.02 DRAIN AND SEWER CLEANING

- A. Drains, storm drains, and sanitary sewers shall be cleaned within the station limits and beyond to the exterior manholes.
- B. The area around each drain, storm drain and sewer cleanout shall be barricaded prior to the commencement of work.
- C. Every drain in the station or building shall be cleaned, prior to cleaning the lines, as follows:
 - 1. Drain covers shall be removed and cleaned, both sides.

2. Drain body and trap shall be cleaned using a high-pressure water jet.
 3. Drain covers shall be reinstalled using new stainless steel fasteners.
- D. Cleanout covers shall be removed and the area around each cleanout plug shall be cleaned and rendered completely free of debris before removing cleanout plug.
- E. Each cleanout plug shall be removed, one at a time, and each line cleared first with auger "snake" and then with high-pressure water jet.
- F. Once all drains and sewer lines have been cleaned, sumps shall be cleaned as follows:
1. Operate sump pumps manually to draw level down to within 6 inches above top of pump or to within 2 feet of the bottom of the sump.
 2. Remove all sediment from sump using Contractor furnished and operated pump or other Engineer approved methods. The sediment may be either discharged directly into existing discharge line, by means of and Engineer-approved, field installed saddle tapping tee ("hot tap") with tapping valve installed down stream of the existing pump discharge shut off valves or by use of disposal drums that when filled shall be transported off site and contents disposed of in an Engineer-approved manner. If tapping tees and valves are used, they shall be left in place and a removable cap or plug shall be installed on the valve end.
 3. After sediment has been removed from each sump, the walls, floor, and pump in each sump and the sump room floors and sump cover and frame shall be cleaned using high pressure washer and Engineer-approved detergent. Avoid water entering pump controller panel and level-limit switch controls and physical damage to pump and controls. Do not use hot water or steam.

3.03 DUCTWORK CLEANING

- A. Ductwork, registers, grilles, and diffusers, as indicated, shall be cleaned.
- B. Registers, grilles, and diffusers shall be removed and cleaned using Engineer-approved detergent, rinsed with clean water, and towel dried.
- C. With registers, grilles, and diffusers removed, ductwork, including ducts to be modified, shall be vacuum cleaned using powered rotating brushes and vacuum unit specifically designed for ductwork cleaning applications.
- D. The volume control dampers installed in the ductwork shall be removed where accessible or moved out of the way to facilitate cleaning. The duct shall be cleaned on either side of multi-blade fire or volume control dampers and the damper blades shall be cleaned through access panels or removed and cleaned where practical.
- E. Existing fan blades, coil faces, and fan housings shall be vacuum cleaned. Fan bearings shall be lubricated, and drive belts examined and the condition reported to the Engineer.
- F. Volume control dampers shall be returned to their original settings.

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- G. Filters shall be replaced with filters meeting the requirements of Section 23 81 00 - Unitary HVAC Equipment.
- H. Cleaned grilles, registers, diffusers, and dampers shall be reinstalled as required for a complete and finished installation.
- I. HVAC systems shall be balanced in accordance with Section 23 05 93 - Testing, Adjusting, and Balancing for HVAC
- J. Fire Damper fusible links shall be replaced with matching links approved by the Engineer.

END OF SECTION 20 01 13